

## Multi-Step Problems

1. Density =  $0.93 \text{ g/cm}^3$        $D = \frac{m}{V}$   
Volume =  $185 \text{ cm}^3$   
Force =  $9.5 \text{ N}$        $F = ma$   
 $a = ?$

$$D = \frac{m}{V}$$

$$m = DV$$

$$= (0.93 \text{ g/cm}^3)(185 \text{ cm}^3)$$

$$= 172.05 \text{ g}$$

$$= 0.17205 \text{ kg}$$

$$F = ma$$

$$a = \frac{F}{m}$$

$$= \frac{9.5 \text{ N}}{0.17205 \text{ kg}}$$

$$= 55.23 \text{ m/s}^2$$

Units of Force:

$$1 \text{ N} = 1 \text{ kg} \cdot \text{m} / \text{s}^2$$

